

# Work Order ID 86334

**\*86.334\***

Page 1

June-27-12 1:29:09 PM

Item ID: D209-669-043

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Replacement Skidtube

Start Date: 27/06/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 11/07/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 12/06/27 Tooling:

Date:

Run Start **\*NR1\***

QC: Date: SPC (Y/N):

Date:

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| Draw Nbr                       | Revision Nbr             |                      |         |        |              |               |               |                  |                |
| D2906                          | Rev B (DEO)              |                      |         |        |              |               |               |                  |                |

100

0.00

**\*100\***

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D209-669 bluefile & type labels per PPP D205-669-043 Chg 003

110

0.00

**\*110\***

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

- Inspect mat'l D2500-1-190 for damage

-Drill pilot holes using drill jig DT8149, DT8711-2 & DT8711-3 (Do not use cutting fluid)

-Open holes to 0.500" as per Dwg D2906 without cutting fluid

-Deburr and blow out all chips from

-Acid etch and Alodine tube per QSI 005 4.1

① SAD 12-06-27.

① Dwg 12-6-28

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Work Order ID 86334

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Item ID: D209-669-043

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Replacement Skidtube

Start Date: 27/06/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 11/07/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description   | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 120                            | QC3- Inspect Part Finish   | 0.00                 |         |        |              |               |               |                  |                |
| <b>*120*</b>                   |  |                      |         |        |              |               |               |                  |                |
| QC                             | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |  |                      |         |        |              |               |               |                  |                |
|                                |  |                      |         |        |              |               |               |                  |                |
|                                |  |                      |         |        |              |               |               |                  |                |
| 130                            |  | 0.00                 |         |        |              |               |               |                  |                |
| <b>*130*</b>                   |  |                      |         |        |              |               |               |                  |                |
| Skidtubes                      | Skidtubes  | 0.00                 |         |        |              |               |               |                  |                |
| Skidtubes                      | Memo   |                      |         |        |              |               |               |                  |                |
|                                | -Bond web in place per QSI 015. Allow 12 Hrs. cure time before cutting |                      |         |        |              |               |               |                  |                |
|                                | Pick:  |                      |         |        |              |               |               |                  |                |
|                                | Qty Part Number Description Batch                                      |                      |         |        |              |               |               |                  |                |
|                                | A/R Sikaflex-291   |                      |         |        |              |               |               |                  |                |
|                                | Sikaflex expire date: 12-04-12   |                      |         |        |              |               |               |                  |                |
|                                | Start Time: 9:00 Date: 12-07-04  |                      |         |        |              |               |               |                  |                |
|                                | Fin Time: 1:00 Date: 12-07-04  |                      |         |        |              |               |               |                  |                |
|                                | pick:  |                      |         |        |              |               |               |                  |                |
|                                | Qty P/N description  |                      |         |        |              |               |               |                  |                |
|                                | 1 D2926-3 Web  |                      |         |        |              |               |               |                  |                |

① SPO 12-02-04

① SPO 12-07-04

B86446

**Dart Aerospace Ltd**

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Work Order ID 86334

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Page 3

Item ID: D209-669-043

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Item Name: Replacement Skidtube

Stop

**\*NS2\***

Start Date: 27/06/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 11/07/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description   | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 140                            |  | 0.00                 |         |        |              |               |               |                  |                |
| <b>*140*</b>                   | BENDING MACHINE - CROSSTUBES   |                      |         |        |              |               |               |                  |                |
| CNC Bender 1                   | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| CNC Delta 100 Bender           | 1-Bend as per program COB43FWD & COBRAFT on CNC Bender and Folio FT  |                      |         |        |              |               |               |                  |                |
|                                | 2-Cut tubes as per Dwg. D2906  |                      |         |        |              |               |               |                  |                |
| 150                            |  | 0.00                 |         |        |              |               |               |                  |                |
| <b>*150*</b>                   | Skidtubes  |                      |         |        |              |               |               |                  |                |
| Skidtubes                      | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| Skidtubes                      | -Deburr ends and remove marks from bending   |                      |         |        |              |               |               |                  |                |
|                                | - Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x17G to start expansion and finish with 1/2 x 18G to achieve dwg dimention. |                      |         |        |              |               |               |                  |                |
| 160                            |  | 0.00                 |         |        |              |               |               |                  |                |
| <b>*160*</b>                   | QC5- Inspect part completeness to step on W/O  |                      |         |        |              |               |               |                  |                |
| QC                             | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |  |                      |         |        |              |               |               |                  |                |

DC 12/07/05

DC 12/07/09

1 0 DE 12/07/09

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Work Order ID 86334

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Item ID: D209-669-043

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Replacement Skidtube

Start Date: 27/06/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 11/07/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description  | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 170                            |   | 0.00                 |         |        |              |               |               |                  |                |
| <b>*170*</b>                   | Large Fab   |                      |         |        |              |               |               |                  |                |
| Skidtubes                      |   | 0.00                 |         |        |              |               |               |                  |                |
| Skidtubes                      | <b>Memo</b>   |                      |         |        |              |               |               |                  |                |
|                                | -Drill holes for wearplates using DT8217 Open holes to 19/64", adjust stopper not to hit web. Debur |                      |         |        |              |               |               |                  |                |
|                                | -Drill pilot holes for aft & fwd cap using DT8215 open holes to #6" Debur                           |                      |         |        |              |               |               |                  |                |
|                                | -Drill pilot holes for Tow ring using DT9555 , open to .640" and Debur                              |                      |         |        |              |               |               |                  |                |
| 190                            | QC5- Inspect part completeness to step on W/O   | 0.00                 |         |        |              |               |               |                  |                |
| <b>*190*</b>                   |   |                      |         |        |              |               |               |                  |                |
| QC                             | <b>Memo</b>   | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |   |                      |         |        |              |               |               |                  |                |

① SAD 12-02-09

8762109

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



# Work Order ID 86334

June-27-12 1:29:09 PM

**\*86334\***

Page 5

Item ID: D209-669-043

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Replacement Skidtube

Start Date: 27/06/2012 Start Qty: 1.00 **\*1\***

Cust Item ID:

Required Date: 11/07/2012 Req'd Qty: 1.00 **\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                     | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 200                            | Pressure Wash per QSI005 4.3                 | 0.00                 |         |        |              |               |               |                  |                |
| <b>*200*</b>                   |  |                      |         |        |              |               |               |                  |                |
| HandFinish                     | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| Hand Finishing                 |  |                      |         |        |              |               |               |                  |                |
| 210                            | White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum | 0.00                 |         |        |              |               |               |                  |                |
| <b>*210*</b>                   |  |                      |         |        |              |               |               |                  |                |
| Powdercoat                     | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| Powder Coating                 | START TIME: 9:40                             |                      |         |        |              |               |               |                  |                |
|                                | OVEN TEMPERATURE: 320°F                      |                      |         |        |              |               |               |                  |                |
|                                | FINISH TIME: 10:10                           |                      |         |        |              |               |               |                  |                |
| 220                            | QC3- Inspect Part Finish                     | 0.00                 |         |        |              |               |               |                  |                |
| <b>*220*</b>                   |  |                      |         |        |              |               |               |                  |                |
| QC                             | Memo   | 0.00                 |         |        |              |               |               |                  |                |
| Quality Control                |  |                      |         |        |              |               |               |                  |                |

1 746 12-7-10

IX 12/07/10

1 12/07/10

W121841

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**Work Order ID 86334**

June-27-12 1:29:09 PM

**\*86334\***

Page 6

Item ID: D209-669-043

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Stop

**\*NS2\***

Item Name: Replacement Skidtube

Start Date: 27/06/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 11/07/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

230

0.00

**\*230\***

HandFinishing

HandFinish

Memo

0.00

Hand Finishing

1-Install inserts &amp; wearplates as per Dwg. D2906. Use a drop of Sikaflex on insert holes before installing wearplates

A/R Sikaflex-291 121130Sikaflex expire date: 14/03

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2906

3-Inspect for foreign object per QSI 024

4-Install D2855 Fwd &amp; Aft Cap as per Dwg D2906 and seal Fwd &amp; Aft Cap with Sikaflex. Clean excess adhesive

A/R Sikaflex-291 121130Sikaflex expire date: 14/03

5-Wing Walk as per Dwg D2906 and QSI 005 4.4

Batch: 1223201 2 DP 12/07/11

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**Work Order ID 86334**

June-27-12 1:29:09 PM

**\*86334\***

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Item ID: D209-669-043

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Replacement Skidtube

Start Date: 27/06/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 11/07/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

240

QC5- Inspect part completeness to step on W/O

0.00

**\*240\***

QC

Memo

0.00

8/7/12

Quality Control

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

250

0.00

**\*250\***

Packaging

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPPD209-669-043

Location:

PPP Rev:

PPP 849/6

C12/7/230

260

QC21- Final Inspection - Work Order Release

0.00

**\*260\***

QC

Memo

0.00

Quality Control

MLJ 12/07/23

MLJ 12/07/23

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

June-27-12 1:29:14 PM

**Parent Item Name:** Replacement Skidtube

**\*86334\***

**\*D209-669-043\***

**Required Date:** 11/07/2012

**Required Qty: 1.00**

**Comments:** new IPP 08.02.13 LL, verified by: DD  
IPP Rev:B remove DT # in seq140 DD 10.03.10 Verified by:EC

| Component Item ID/<br>Item Name                | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty    | Qty<br>Issued | Date<br>Issued | Status |
|--|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|-----------------|---------------|----------------|--------|
| D4202-1  |                        | Manufactured  | No          |                     |                  |                 | Each               | 224.0000       |             | 19              |               |                |        |
| <b>*D4202-1*</b><br>Spacer                     |                        |               |             |                     |                  |                 |                    |                |             |                 |               |                |        |
|  |                        |               |             |                     | B 87463          |                 |                    |                | **          |                 |               | DE 12/07/09    |        |
|  |                        |               |             | <u>Location</u>     |                  |                 |                    | <u>Loc Qty</u> |             | <u>Loc Code</u> |               | 19             |        |
|  |                        |               |             | LG                  |                  |                 |                    | 184            |             |                 |               |                |        |
|  |                        |               |             |                     | 77727            |                 |                    | 5              |             |                 |               |                |        |
|  |                        |               |             |                     | 83263            |                 |                    | 179            |             |                 |               |                |        |
|  |                        |               |             | LG002               |                  |                 |                    | 40             |             |                 |               |                |        |
|  |                        |               |             |                     | 78806            |                 |                    | 6              |             |                 |               |                |        |
|  |                        |               |             |                     | 79810            |                 |                    | 34             |             |                 |               |                |        |
| D2500-1-190                                    |                        | Manufactured  | No          |                     |                  | 110             | Each               | 49.0000        | 1           | 1               |               |                |        |
| <b>*D2500-1-190*</b><br>Ext'n -1' Beam Tube 4" |                        |               |             |                     |                  |                 |                    |                |             |                 |               |                |        |
|  |                        |               |             | <u>Location</u>     |                  |                 |                    | <u>Loc Qty</u> |             | <u>Loc Code</u> |               |                |        |
|  |                        |               |             | HALL                |                  |                 |                    | 49             |             |                 |               |                |        |
|  |                        |               |             |                     | 74777            |                 |                    | 10             |             |                 |               |                |        |
|  |                        |               |             |                     | 80061            |                 |                    | 39             |             |                 |               |                |        |
| D2926-3  |                        | Manufactured  | No          |                     |                  | 110             | Each               | 12.0000        | 1           | 1               |               |                |        |
| <b>*D2926-3*</b><br>Web                        |                        |               |             |                     |                  |                 |                    |                |             |                 |               |                |        |
|  |                        |               |             | <u>Location</u>     |                  |                 |                    | <u>Loc Qty</u> |             | <u>Loc Code</u> |               |                |        |
|  |                        |               |             | LG                  |                  |                 |                    | 12             |             |                 |               |                |        |
|  |                        |               |             |                     | 84949            |                 |                    | 6              |             |                 |               |                |        |
|  |                        |               |             |                     | 84950            |                 |                    | 2              |             |                 |               |                |        |
|  |                        |               |             |                     | 86263            |                 |                    | 4              |             |                 |               |                |        |

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



# Picklist Print

June-27-12 1:29:14 PM

Page 2

Work Order ID: 86334

**\*86334\***

Parent Item: D209-669-043

**\*D209-669-043\***

Parent Item Name: Replacement Skidtube

Start Date: 27/06/2012

Required Date: 11/07/2012

Start Qty: 1.00

Required Qty: 1.00

D2855

Manufactured No

230

Each

19.0000

2

2

**\*D2855\***

Cap

\*\*

2

(SP)

12/07/11

\*

Location

Loc Qty

Loc Code

FP002

81952 ✓

19

65519

2

73347

14

75074

3

AN3-5A

Purchased

No

230

Each

808.0000

4

4

**\*AN3-5A\***

Bolt

\*\*

4

(SP)

12/07/11

Location

Loc Qty

Loc Code

ST350

808

115371

46

117423

124

119355

200

120187 ✓

432

121185

6

AN960JD10L

\*

NAS1149D0332L ✓

Purchased

No

230

Each

0.0000

4

4

**\*AN960JD10L \***

Washer

\*\*

4

(SP)

12/07/11

121 011 ✓

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

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Page 3

Work Order ID: 86334

Parent Item: D209-669-043

Parent Item Name: Replacement Skidtube

\*86334\*

\*D209-669-043\*

Start Date: 27/06/2012

Required Date: 11/07/2012

Start Qty: 1.00

Required Qty: 1.00

ALS7-1032-130

Purchased

No

230

Each

1,998.000

44

44

\*AI S7-1032-130\*

Insert

\*\*

44

SP

12/07/11

## Location

## Loc Qty

## Loc Code

ST280

51

117717

27

118966

22

119775

2

ST282

1947

119530

73

120181

12

121444 ✓

1862

AN3C4A

Purchased

No

230

Each

4,780.000

44

44

\*AN3C4A\*

BOLT

\*\*

44

SP

12/07/11

## Location

## Loc Qty

## Loc Code

ST350

4780

120187

31

120521

28

120769

38

121205

675

121556

8

122151 ✓

4000

AN960C10L

\* NAS1149C0332 R

Purchased

No

230

Each

21.0000

44

44

\*AN960C10I \*

washer

\*\*

44

SP

12/07/11

## Location

## Loc Qty

## Loc Code

ST

21

107534

21

June-27-12 1:29:15 PM

Shop Packet Print

Page 3

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

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Page 4

Work Order ID: 86334

Parent Item: D209-669-043

Parent Item Name: Replacement Skidtube

\*86334\*

\*D209-669-043\*

Start Date: 27/06/2012

Required Date: 11/07/2012

Start Qty: 1.00

Required Qty: 1.00

D2594-3

Manufactured No

230

Each

2,396.000

14

14

\*D2594-3\*

O-Ring, 205 Skidtube

\*\*

14 (28) 12/07/11

Location

Loc Qty

Loc Code

FP001

2396

65518

41

79496

984

79573

50

79755 ✓

1321

D2594-1

Manufactured No

230

Each

699.0000

14

14

\*D2594-1\*

Plug, 205 Skidtube

\*\*

14 (28) 12/07/11

Location

Loc Qty

Loc Code

FP001

84

73401

30

74442

6

79495

48

FP-A

615

73401

0

78590

205

84951 ✓

410

D3564-9

Manufactured No

230

Each

41.0000

1

1

\*D3564-9\*

Wearshoe

\*\*

1 (28) 12/07/11

Location

Loc Qty

Loc Code

FG

4

76950

4

FP001

37

67590

4

69943

1

82255

7

84870 ✓

25

June-27-12 1:29:15 PM

Shop Packet Print

Page 4

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Picklist Print

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Page 5

Work Order ID: 86334

Parent Item: D209-669-043

Parent Item Name: Replacement Skidtube

\*86334\*

\*D209-669-043\*

Start Date: 27/06/2012

Required Date: 11/07/2012

Start Qty: 1.00

Required Qty: 1.00

D3564-11

Manufactured No

230

Each

39.0000

1

1

\*D3564-11\*

Wearshoe

\*\*

1 2P 12/07/11

## Location

## Loc Qty

## Loc Code

FG

5

77056

5

FP001

34

83910 ✓

22

84871

12

230

Each

61.0000

1

1

\*\*

1 2P 12/07/11

D3564-5

Manufactured No

\*D3564-5\*

Wearshoe

## Location

## Loc Qty

## Loc Code

FG

2

34806

2

FP001

59

77609

1

80343

1

82254

8

84869 ✓

25

85475

24

230

Each

94.0000

2

2

\*\*

2 2P 12/07/11

D3566-1

Manufactured No

\*D3566-1\*

Gasket

## Location

## Loc Qty

## Loc Code

FP

-32

FP002

126

68924

2

80919

2

81619

3

83898

15

84879 ✓

72

June-27-12 1:29:15 PM

Shop Packet Print

Page 5

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



# Picklist Print

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Page 6

Work Order ID: 86334

Parent Item: D209-669-043

Parent Item Name: Replacement Skidtube

\*86334\*

\*D209-669-043\*

Start Date: 27/06/2012

Required Date: 11/07/2012

Start Qty: 1.00

Required Qty: 1.00

D3566-5

Manufactured No

230

Each

52.0000

1

1

\*D3566-5\*

Gasket

\*\*

1 12/07/11

Location

Loc Qty

Loc Code

FP

10

82275

10

FP002

42

80374

3

82274

6

84881 ✓

33

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) LENGTH OF D2500-1 EXTRUSION BEFORE BENDING = 190 INCHES.
- 3) INSERT D2926-1/3 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291.
- 4) ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 5) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 6) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 7) USE DART DRILL TEMPLATE DT2906-041T1 (D2906-041) OR DT2906-043T1 (D2906-043) TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION C-C AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/291.
- 8) WELDING TO BE DONE PER DART QSI 004.
- 9) FINISH:
  - ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2926-1/3 WEB. POWDER COAT ASSEMBLY WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
  - BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- 10) INSERT D2594-1 PLUG CW D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (12 PLACES).
- 10) ALL DIMENSIONS ARE IN INCHES.

SHOP COPY  
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UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER *MLJ 12/06/27*  
NO. *06334*

| QTY<br>-041 | QTY<br>-043 | Part Number   | Description                 |
|-------------|-------------|---|-----------------------------|
| X           |             | D2906-041   | SKIDTUBE ASSEMBLY           |
|             | X           | D2906-043   | SKIDTUBE ASSEMBLY           |
| 1           | 1           | D2500-1-190   | EXTRUSION                   |
| 22          | 19          | D2579   | CROSS BOLT SPACER           |
| 12          | 14          | D2594-1   | PLUG                        |
| 12          | 14          | D2594-3   | O-RING                      |
| 2           | 2           | D2855   | AFT CAP                     |
| 1           |             | D2926-1   | WEB                         |
| 1           | 1           | D2926-3   | WEB                         |
| 1           | 1           | D3564-9   | WEARSHOE (REPLACES D2577-1) |
| 1           | 1           | D3564-11  | WEARSHOE (REPLACES D2577-3) |
| 1           | 1           | D3564-5   | WEARSHOE (REPLACES D2577-5) |
| 1           |             | D3564-15  | WEARSHOE                    |
| 2           | 2           | D3566-1   | GASKET                      |
| 1           | 1           | D3566-5   | GASKET                      |
| 1           |             | D3566-15  | GASKET                      |
| 50          | 44          | ALS7-1032-130<br>or AKS7-1032-130<br>or AKS4-1032-130<br>or ALS4-1032-130 | INSERT                      |
| 50          | 44          | AN3C4A  | BOLT                        |
| 4           | 4           | AN3-5A  | BOLT                        |
| 50          | 44          | AN960C10L   | WASHER                      |
| 4           | 4           | AN960JD10L  | WASHER                      |

**RELEASED**

07.09.04

|   |  |                        |          |
|---|--|------------------------|----------|
| B   | UPDATE DRAWING FORMAT: RE-ORGANIZE;<br>ADD STAINLESS STEEL WEARPLATES AND GASKETS<br>CHANGE WEARPLATE HARDWARE TO SS;<br>PG 1: ADD NOTE 10;<br>PG 2 C7: REMOVE AFT Ø0.640 HOLE FROM -041;<br>PG 3 C3: CORRECTED -043 CAP P/N;<br>PG 3 D7: 38 PLACES WAS 44 PLACES; | CB                     | 07.08.21 |
| A   | NEW ISSUE  | CP                     | 04.06.22 |
| REV.  | DESCRIPTION  | BY                     | DATE     |
| DESIGN  | <i>q</i>   |                        |          |
| DRAWN   | <i>CB</i>  |                        |          |
| CHECKED   | <i>PH</i>  |                        |          |
| MFG. APPR.  | <i>q</i>   |                        |          |
| APPROVED  | <i>q</i>   |                        |          |
| DE APPR.  | <i>q</i>   |                        |          |
| DATE  | 07.08.21   |                        |          |
| DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA   |  | REV. B<br>SHEET 1 OF 3 |          |
| TITLE<br>AH-1 (209) SKIDTUBE ASSEMBLY   |  | SCALE<br>NTS           |          |
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| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

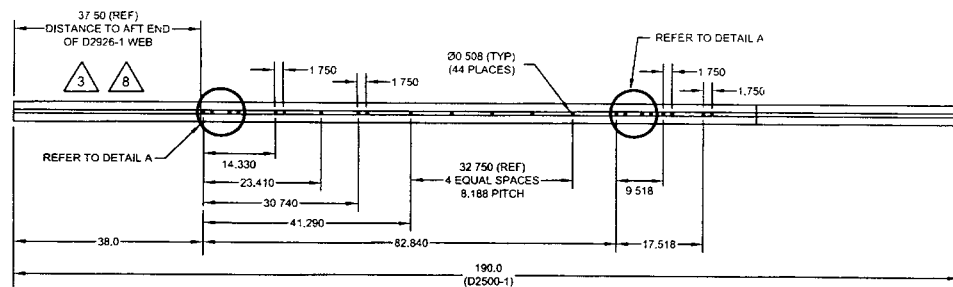
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

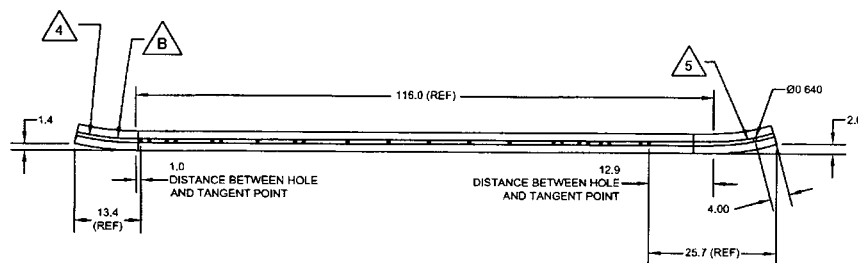
| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

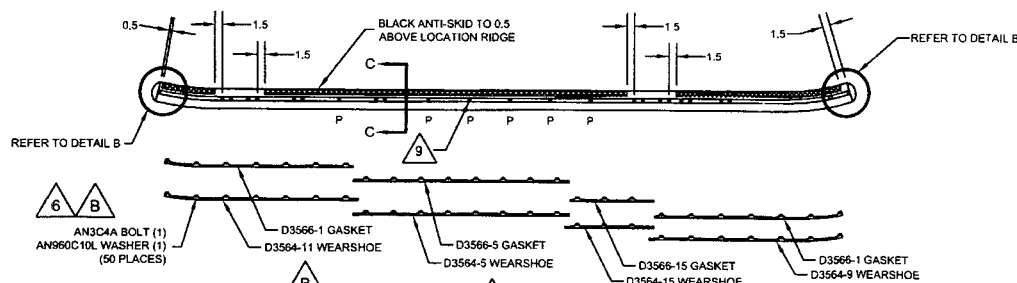
88334



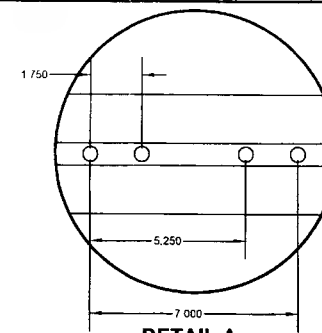
**D2906-1 DRILLING DETAIL**



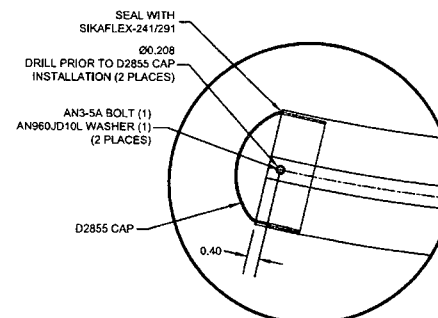
**D2906-041 BENDING AND CUTTING DETAIL**



**D2906-041 ASSEMBLY DETAIL**



**DETAIL A**  
SCALE 1:4

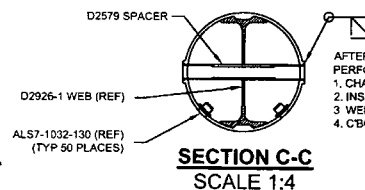


**DETAIL B**  
SCALE 1:4

RELEASED

07.09.04

6



**SECTION C-C**  
SCALE 1:4

AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:  
1. CHAMFER HOLE 0.050 X 45°  
2. INSERT D2579 SPACER (22 PLACES)  
3. WELD INTO PLACE AND GRIND FLUSH  
4. C-BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

|   |          |  |              |
|---|----------|--|--------------|
| DESIGN  | 9P       | <b>DART AEROSPACE LTD</b>              |              |
| DRAWN   | CB       | HAWKESBURY, ONTARIO, CANADA            |              |
| CHECKED   | PH       | DRAWING NO.                            | REV. B       |
| MFG. APPR.  | PH       | D2906                                  | SHEET 2 OF 3 |
| APPROVED  | PH       | TITLE                                  | SCALE        |
| DE APPR.  | PH       | AH-1 (209) SKIDTUBE ASSEMBLY           | 1:24         |
| DATE  | 07.08.21 | COPYRIGHT © 2004 BY DART AEROSPACE LTD |              |
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| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

Technical drawing of a bridge deck cross-section. The drawing shows a horizontal section of a bridge deck with a central horizontal axis. Key dimensions and labels include:

- 102.9 (REF)**: Dimension from the left tangent point to the right tangent point.
- 1.4**: Dimension from the left edge to the left tangent point.
- 13.4 (REF)**: Dimension from the left edge to the centerline.
- 1.0**: Dimension from the centerline to the left tangent point.
- DISTANCE BETWEEN HOLE AND TANGENT POINT**: Label for the 1.0 dimension.
- 2.2**: Dimension from the centerline to the right tangent point.
- DISTANCE BETWEEN HOLE AND TANGENT POINT**: Label for the 2.2 dimension.
- 4.00**: Dimension from the right tangent point to the right edge.
- 18.9 (REF)**: Dimension from the centerline to the right edge.
- Ø0.840**: Dimension of a hole in the deck.
- 2.0**: Dimension from the right edge to the right tangent point.
- 4** and **5**: Labels for the left and right tangent points, respectively.

SEAL WITH SIKAFLEX-241/291

Ø 208

DRILL PRIOR TO D2855 CAP INSTALLATION (2 PLACES)

AN3-5A BOLT (1)

AN950JD10L WASHER (1) (2 PLACES)

D2855 CAP

0.40

B

**RELEASED**

07.09.04

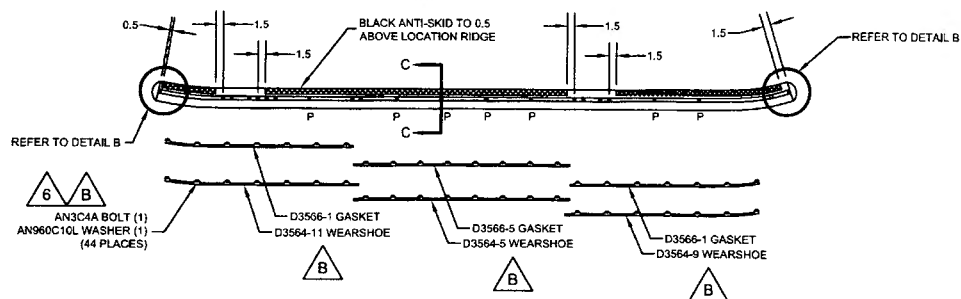


Diagram illustrating the cross-section of a wheel assembly. The components labeled are:

- D2579 SPACER
- D2926-3 WEB (REF)
- ALST-1032-130 (REF) (TYP 44 PLATES)

Section 2-2

After Perforation:

1. CH
2. INS
3. WE
4. CT

**AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:**

- 1. CHAMFER HOLE 0.050 X 45°**
- 2. INSERT D2579 SPACER (22 PLACES)**
- 3. WELD INTO PLACE AND GRIND FLUSH**
- 4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP**

|            |                 |  |
|------------|-----------------|--|
| DESIGN     | <i>90</i>       | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA<br><br>DRAWING NO. <b>D2906</b><br><br>TITLE <b>AH-1 (209) SKIDTUBE ASSEMBLY</b><br><br>SCALE <b>1:2</b>  |
| DRAWN      | <i>C.B.</i>     |  |
| CHECKED    | <i>PH</i>       |  |
| MFG. APPR. | <i>PH</i>       |  |
| APPROVED   | <i>PH</i>       |  |
| DE APPR.   | <i>PH</i>       |  |
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| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries



86334

|                      |                                       |                                  |   |                                |                         |                           |              |
|----------------------|---------------------------------------|----------------------------------|---|--------------------------------|-------------------------|---------------------------|--------------|
| DRAWING NO.<br>D2906 | TITLE<br>AH-1 (209) SKIDTUBE ASSEMBLY | REV. B                           | DART AEROSPACE LTD<br>ENGINEERING ORDER |                                | D.E.O. NO.<br>D2906-B-1 | SHEET NO.<br>SHEET 1 OF 1 | SCALE<br>NTS |
| DRAWN<br>A.P.        | CHECKED<br><i>[Signature]</i>         | MFG. APPR.<br><i>[Signature]</i> | APPROVED<br><i>[Signature]</i>          | DE APPR.<br><i>[Signature]</i> |                         |                           |              |
| DATE<br>12.05.28     | DATE<br>12.05.28                      | DATE<br>12.05.31                 | DATE<br>12.05.31                        | DATE<br>12.05.31               |                         |                           |              |

**PURPOSE:**

CHANGE ALL C'BORED WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

**CHANGE:**

PARTS LIST IS AMENDED AS FOLLOWS:

WAS

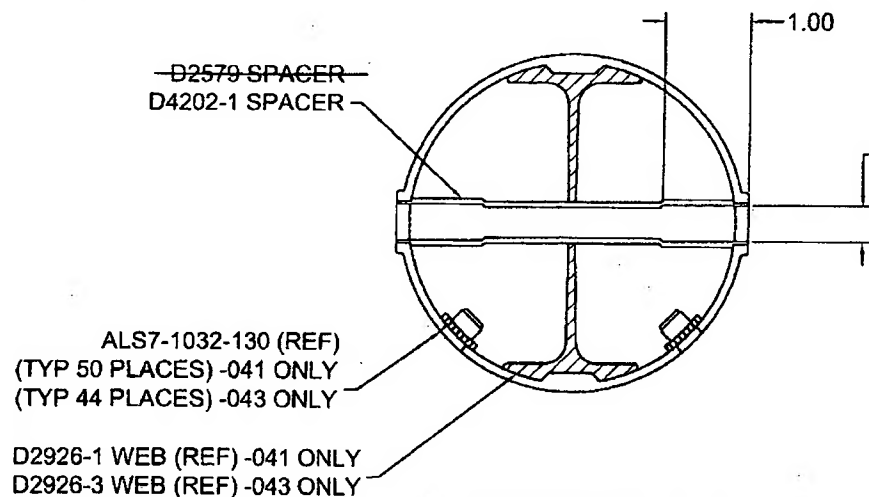
| QTY<br>-041 | QTY<br>-043 | PART NUMBERS | DESCRIPTION       |
|-------------|-------------|--------------|-------------------|
| 22          | 19          | D2579        | CROSS BOLT SPACER |

IS

|    |    |         |        |
|----|----|---------|--------|
| 22 | 19 | D4202-1 | SPACER |
|----|----|---------|--------|

SECTION C-C ON SHEETS 2 & 3 ARE AMENDED AS FOLLOWS FOR ALL HOLES THAT WERE ORIGINALLY C'BORED:

**RELEASED**  
2012-06-05  
*[Signature]*



**SECTION C-C** A2-2  
NOT TO SCALE A2-3

AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

- ~~1. CHAMFER HOLE 0.050 X 45°~~
- ~~2. INSERT D2579 SPACER (20 PLACES)~~
- ~~3. WELD INTO PLACE AND GRIND FLUSH~~
- ~~4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP~~

1. INSERT D4202-1 SPACER, 22 PL (-041) OR 19 PL (-043)
2. SWAGE TO Ø0.437 X 1.00 DEEP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

NOTE: Date & initial all entries